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(54) PORTABLE TERMINALPROGRAM RELEVANT INFORMATION PROVIDING METHOD AND SYSTEM

(57)Abstract:

PROBLEM TO BE SOLVED: To link a television receiver which is not equipped with any special function with a computer for providing information relevant to television broadcast program during broadcasting.

SOLUTION: This system is provided with a means 331/31 for transmitting a radio signal related with the tuning of a television broadcasting channel to a television receiver 5 according to a television broadcasting channel selection/change input by a user and a means 331/332/35 for transmitting a program relevant information acquisition request including user identification information and the information of the selection/change inputted television broadcasting channel to a prescribed server according to the television broadcasting channel selection/ change input and a means 332 for displaying program relevant information at a display part when receiving the program relevant information from the prescribed server. Thus it is possible to transmit a radio signal related with channel tuning to the television receiver according to the television broadcasting channel selection/change input by the user and to acquire the program relevant information from the prescribed server.

CLAIMS

[Claim(s)]

[Claim 1] A means to transmit a radio signal about a channel selection of said

television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a userA means to transmit a program-related-information acquisition request which includes information on said television broadcasting channel by which selection or a change input was carried out with user identification information according to said television broadcasting channel selection or a change input to a predetermined serverA personal digital assistant which has a means to display the program related information concerned on a display when program related information is received from said predetermined server.

[Claim 2]A means to transmit a radio signal about a channel selection of said television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a userA means to transmit a program-related-information acquisition request which includes information on said television broadcasting channel by which selection or a change input was carried out with information about a current position according to said television broadcasting channel selection or a change input to a predetermined serverA personal digital assistant which has a means to display the program related information concerned on a display when program related information is received from said predetermined server.

[Claim 3]A means to transmit a radio signal about said powering-on directions to said television receiver according to powering-on directions to said television receiver by a userThe personal digital assistant according to claim 1 or 2 which has further a means to perform a display to which a television broadcasting channel selection input is urged according to said powering-on directions.

[Claim 4]A means to transmit a radio signal about said power off directions to said television receiver according to power off directions of said television receiver by a userA personal digital assistant of Claims 1-3 which have further a means to transmit user identification information and information on said power off to said predetermined serveraccording to said power off directions given in any one.

[Claim 5]The personal digital assistant according to claim 1 including information about a current position in said program-related-information acquisition request.

[Claim 6]A step to which a radio signal transmission section is made to transmit a radio signal about a channel selection of said television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a userA program for making a processing unit perform a step which makes a browser transmit a request including information on said television broadcasting channel by which selection or a change input was carried out with user identification information to a predetermined server according to said television broadcasting channel selection or a change input.

[Claim 7]A step to which a radio signal transmission section is made to transmit a radio signal about a channel selection of said television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a userA program for making a processing unit perform a step which makes a browser transmit a request including information on said television

broadcasting channel by which selection or a change input was carried out with information about a current position to a predetermined server according to said television broadcasting channel selection or a change input.

[Claim 8]A program-related-information provision method comprising:

A step which acquires information on broadcasting areas beforehand registered using user identification information from memory storage when a program-related-information acquisition request which includes user identification information and information on a television broadcasting channel from a user terminal is received.

A step which acquires information relevant to a program under broadcast from memory storage in said television broadcasting channel using information on said acquired broadcasting areas and a step which transmits information relevant to a program under broadcast to said user terminal in said television broadcasting channel.

[Claim 9]The program-related-information provision method according to claim 8 which contains further a step which registers said user identification information on said television broadcasting channel and information on time into log memory storage at least.

[Claim 10]The program-related-information provision method according to claim 9 which contains further a step which carries out processing for viewership calculation using information stored in said log memory storage.

[Claim 11]A step which analyzes a viewing inclination of a specific user's television broadcasting program using information stored in said log memory storageThe program-related-information provision method according to claim 9 or 10 which contains further a step which transmits a notice about a television broadcasting program with said specific user's high viewing-and-listening probability to the addressing to a specific user concerned based on a viewing inclination of said analyzed television broadcasting program.

[Claim 12]A program-related-information provision method comprising:

A step which acquires information relevant to a program under broadcast from memory storage in said television broadcasting channel using information on a current position of said user terminal when a program-related-information acquisition request including information on a current position of a user terminal to the user terminal concerned and information on a television broadcasting channel is received.

A step which transmits information relevant to a program under broadcast to said user terminal in said television broadcasting channel.

[Claim 13]A program for making a computer perform a program-related-information provision method of Claims 8-12 given in any one.

[Claim 14]A program related information providing system comprising:

A means to acquire information on broadcasting areas beforehand registered using user identification information from memory storage when a program-related-

information acquisition request which includes user identification information and information on a television broadcasting channel from a user terminal is received. A means to acquire information relevant to a program under broadcast from memory storage in said television broadcasting channel using information on said acquired broadcasting areas and a means to transmit information relevant to a program under broadcast to said user terminal in said television broadcasting channel.

[Claim 15] A program related information providing system comprising:

A means to acquire information relevant to a program under broadcast from memory storage in said television broadcasting channel using information on a current position of said user terminal when a program-related-information acquisition request including information on a current position of a user terminal to the user terminal concerned and information on a television broadcasting channel is received.

A means to transmit information relevant to a program under broadcast to said user terminal in said television broadcasting channel.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which an invention belongs] This invention relates for example to the cooperation art of personal digital assistantssuch as a portable telephone, a television receiver and a personal digital assistant and the computer that provides television broadcasting program related information.

[0002]

[Description of the Prior Art] From the former. In PDA (Personal Digital Assistance) and the note type personal computer (referred to as PC below) corresponding to IrDA (Infrared Data Association) remote Control functionssuch as a television receiver. The remote control program for giving existed. Although it has the function to connect PDA and the notebook PC itself to the Internet, a remote control program provides only remote control functionssuch as a television receiver and the cooperation with the server connected to the cooperation with the function linked to the Internet and the Internet is not taken into consideration at all.

[0003] In JP2001-103406A. The TV broadcast receiver which has the data accumulation part and program reservation registration part which accumulate a user's view program hysteresis information. The reception and transmission unit which receives the view program hysteresis information transmitted from a data accumulation part. It has the personal digital assistant telephone which has the liquid crystal display section and program reservation instruction part which

display the received program informationTV program reservation system which registers a broadcast channelbroadcast start timeand finish time into the program reservation registration part of a TV broadcast receiver by a program reservation instruction part is indicated in the program for which a user wishes based on the program information displayed on the liquid crystal display section. In this gazettealthough the cooperation with personal digital assistant telephone and a TV broadcast receiver is madethe cooperation with the server connected to computer networkssuch as the Internetis not indicated at all. It is premised on the TV broadcast receiver which has special equipment called the data accumulation part and program reservation registration part which store view program hysteresis information.

[0004]Furthermoreto JP2001-45447A. The digital broadcasting system which comprises a broadcasting station which performs digital broadcasting and provides the service relevant to a programa receiver which receives digital broadcastingand an operation machine with which it may be carried by each televiewer and has an operation machine and a telephone communication function and a remote control function of a receiveretc. is indicated. In this digital broadcasting systema receiver transmits the program identification information which specifies a program during reproduction to each surrounding operation machine with infrared raysEach operation machine adds the telephone number of a self-opportunity to the transmitted informationand carries out telephone transmission to a broadcasting station etc.Broadcasting stations get to know the program and the service provision point to which it was viewed and listened by the program identification information sent from the operation machineand telephoneand various servicessuch as performing the notice of success in an election to the televiewer of carrying out telephone transmission of the information for descrambling of a program or a program with a prize by telephoneare provided. It is premised on the receiver which has special equipment called the function which transmits the program identification information which specifies a program during reproduction to an operation machine although cooperation with the operation machine which has a telephone communication functionthe receiver which receives digital broadcastingand a broadcasting station is made in this gazette. In order for a receiver to be able to transmit the program identification information which specifies a program during reproductionit means that it is necessary to also make special the contents which a broadcasting station broadcasts.

[0005]Furthermoreto JP2001-145140A. If the program guide information supplied to the cellular phone by the site for reservation of picture recording is outputted to an indicator as simple EPG (electronic program guide)the program it is broadcast that the user of a cellular phone is is checked and a program is specified using an arrow key and a function keySince the G code of the program is sent from the site for reservation of picture recordingthis is transmitted to a pager and the system which carries out recording reservation of the pager by which the call was carried out to a videotape recorder according to the G code transmitted is indicated. In this gazettealthough cooperation with a cellular phonethe site for

reservation of picture recording a pager or a videotape recorder is shown it is the requisite that it is in the position in which I hear that the cellular phone transmitted the G code to the pager and the user of the cellular phone separated from the videotape recorder. Therefore after accessing the site for reservation of picture recording from a cellular phone first and acquiring program guide information it is the procedure of sending a G code to a pager. Since it aims at reservation of picture recording the contents of the gestalt interlocked with a program while also broadcasting the program guide information transmitted from a reservation-of-picture-recording site cannot become.

[0006] Although a system called the present interactive television is also put in practical use the information relevant to a program can be acquired on-line with a special television receiver or information can be transmitted now. Since program related information can be displayed on the television receiver itself there is no necessity which displays program related information on the remote control terminal.

[0007]

[Problem(s) to be Solved by the Invention] The art of making it cooperating while broadcasting personal digital assistantssuch as a television receiver which does not have a function special to conventional technology as mentioned above and a portable telephone and a personal digital assistant and computerssuch as a server which provides television broadcasting program related information is not indicated at all.

[0008] Therefore the purpose of this invention is to provide the personal digital assistant which can cooperate during broadcast with the computer which provides the television receiver and television broadcasting program related information which do not have a special function and the art for it.

[0009] It is also the purpose to provide the computer for providing with television broadcasting program related information the personal digital assistant which cooperates and operates during broadcast with a television receiver and the art for it.

[0010]

[Means for Solving the Problem] A personal digital assistant concerning the 1st mode of this invention is provided with the following.

a radio signal (for example a radio signal by infrared rays.) concerning a channel selection of said television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a user Or a means to transmit a radio signal according to Bluetooth (refer to <http://www.bluetooth.com> for details) which is a short-distance-radio telecommunications standard etc.

A means to transmit a program-related-information acquisition request which includes information on a television broadcasting channel by which selection or a change input was carried out with user identification information according to a television broadcasting channel selection or a change input to a predetermined server.

A means to display the program related information concerned on a display when program related information is received from a predetermined server.

[0011] A personal digital assistant concerning the 2nd mode of this invention is provided with the following.

A means to transmit a radio signal about a channel selection of said television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a user.

A means to transmit a program-related-information acquisition request which includes information on a television broadcasting channel by which selection or a change input was carried out with information (for example not only an exact position but information on the area is included) about a current position according to a television broadcasting channel selection or a change input to a predetermined server.

A means to display the program related information concerned on a display when program related information is received from a predetermined server.

[0012] Thus a personal digital assistant concerning the 1st and 2nd gestalten of this invention transmits a radio signal about a channel channel selection to a television receiver according to a television broadcasting channel selection or a change input by a user and it operates so that program related information may be acquired to a predetermined server. Now a user only pushes a button of a channel with a personal digital assistant A tuner of a television receiver which does not have a special function is controlled and information relevant to a program under broadcast can be received and displayed by a tuning channel and additional information relevant to a program can be acquired from a predetermined server. Using additional information relevant to this program program cooperation contents such as program-related shopping download of data a product advertisement vote and quiz can be further used now.

[0013] It assumes carrying out processing according to user registration in a predetermined server on the assumption that the 1st mode registers as a user. It is premised on the 2nd mode not having user registration and in order to interpret a meaning of a selector channel information about a current position is needed.

[0014] A means to transmit a radio signal about powering-on directions to a television receiver in the 1st and 2nd modes of this invention according to powering-on directions to a television receiver by a user. Composition which has further a means to perform a display to which a television broadcasting channel selection input is urged according to powering-on directions is also possible.

[0015] For example in powering-on directions with a television receiver a channel in the case of power off is set as a tuner but it may not be in agreement with channel information currently held by the personal digital assistant side. Therefore in powering-on directions program related information of an exact channel can be acquired now by demanding a television broadcasting channel selection input from a user.

[0016]A means to transmit a radio signal about power off directions to a television receiver in the 1st and 2nd modes of this invention according to power off directions of a television receiver by a userAccording to power off directionsit may be the composition that it has further a means to transmit user identification information and information on power off to a predetermined server. It can use for recording till when it was viewing and listening in a predetermined server. In a predetermined servervarious informationincluding sending a previewrelated product informationetc. on a television broadcasting program to which it viewed and listened further etc.can be provided now.

[0017]In the 1st mode of this inventionit is also possible to have composition which includes information about a current position in a program-related-information acquisition request described in a top. For exampleeven if it is a case where it is not in a housebased on information about a current positionthe predetermined server can interpret a meaning of a channel.

[0018]A step to which a radio signal transmission section is made to transmit a radio signal about a channel selection of a television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input according [a program concerning the 3rd mode of this invention] to a userAccording to a television broadcasting channel selection or a change inputa request including information on a television broadcasting channel by which selection or a change input was carried out with user identification informationIt is a program for making a processing unit (for exampleCPU (Central Processing Unit)) perform a step which a browser is made to transmit to a predetermined server. If processing unitssuch as a personal digital assistant which has a radio signal transmission section and browsersssuch as infrared raysare made to execute such a programit will become a personal digital assistant concerning the 1st gestalt of this inventionetc.

[0019]A program concerning the 4th mode of this inventionA step to which a radio signal transmission section is made to transmit a radio signal about a channel selection of a television broadcasting channel to a television receiver according to a television broadcasting channel selection or a change input by a userIt is a program for making a processing unit perform a step which makes a browser transmit a request including information on a television broadcasting channel by which selection or a change input was carried out with information about a current position to a predetermined server according to a television broadcasting channel selection or a change input. If processing unitssuch as a personal digital assistant which has a radio signal transmission section and browsersssuch as infrared raysare made to execute such a programit will become a personal digital assistant concerning the 2nd mode of this inventionetc.

[0020]A program-related-information provision method concerning the 5th mode of this invention is provided with the following.

A step which acquires information on broadcasting areas beforehand registered using user identification information from memory storage when a program-related-information acquisition request which includes user identification

information and information on a television broadcasting channel from a user terminal is received.

A step which acquires information relevant to a program under broadcast from memory storage in a television broadcasting channel using information on acquired broadcasting areas.

A step which transmits information relevant to a program under broadcast to a user terminal in a television broadcasting channel.

[0021]The user who is operating a user terminal can acquire information relevant to a program under broadcast in a television broadcasting channelThe operator of a computer who performs an acting-before-the-audience group pertinent information provision method can know a user's viewing-and-listening situationand he can provide a user with program related information including an advertisement etc.and can obtain a user's positive response now. Program related information according to a user's attribute is extractedand it may be made to send out.

[0022]Composition which contains further a step which registers user identification informationinformation on a television broadcasting channeland information on time into log memory storage at least is also possible. For exampleif it is made for a step which carries out processing for viewership calculation using information stored in log memory storage to be included furtherit can use for viewership calculation. It also becomes possible to use for various advertisements.

[0023]A step which analyzes a viewing inclination of a specific user's television broadcasting program using information stored in log memory storageComposition which contains further a step which transmits a notice about a television broadcasting program with a specific user's high viewing-and-listening probability to the addressing to a specific user concerned based on a viewing inclination of an analyzed television broadcasting program is also possible. For exampleprogram start time can be notifiedor this highlight can be notifiedand viewing and listening of a program can be urged. It is also possible to include an advertisement suitable for a user's attribute in this notice.

[0024]A program-related-information provision method concerning the 6th mode of this invention is provided with the following.

A step which acquires information relevant to a program under broadcast from memory storage in a television broadcasting channel using information on a current position of a user terminal when a program-related-information acquisition request including information on a current position of a user terminal to the user terminal concerned and information on a television broadcasting channel is received.

A step which transmits information relevant to a program under broadcast to a user terminal in a television broadcasting channel.

[0025]If information on a current position can be acquired even if it is a case where user identification information is not registeredit will become as [provide / with program related information corresponding to a viewing-and-listening area / a

user].

[0026] It is also possible to create a program for making a computer perform a method described in a top and the program concerned is stored in a storage or memory storage such as a flexible disk, CD-ROM, a magneto-optical disc, semiconductor memory, and a hard disk, for example. It may be distributed via a network. It is stored temporarily by memory of a computer about data in the middle of processing.

[0027]

[Embodiment of the Invention] The system outline concerning the 1 embodiment of this invention is shown in drawing 1. The portable telephone 3 which a user operates can direct predetermined operation now to the television receiver 5 by short-distance-radio communication like infrared rays or Bluetooth. The television receiver 5 receives broadcast by an electric wave etc. and displays the image of a program on an indicator. When carrying out this embodiment, the function special to the television receiver 5 is unnecessary. The portable telephone 3 can communicate now by the base transceiver station 9 and radio. The base transceiver station 9 is connected to the Internet 1 via the cellular phone network 11. The portable telephone 3 can also be connected now to the Internet 1 via a base station and the cellular phone network 11.

[0028] The main server 7 which carries out main processings in this embodiment is connected to the Internet 1. In addition, in relation to this embodiment, as a server linked to the Internet 1, for example, the advertisement server 13 which distributes an advertisement based on the information accumulated in the main server 7, the download server 15 which transmits a file etc. to the portable telephone 3 of a requiring agency when there is a demand from the portable telephone 3 based on the downloaded information included in the program related information with which the portable telephone 3 is provided by the main server 7, the shopping server 17 which carries out processing relevant to shopping when there is a demand from the portable telephone 3 based on the shopping information included in the program related information with which the portable telephone 3 is provided by the main server 7, for example, when it is said that a televiewer is also asked for a reply when a television broadcasting program is a quiz show or a questionnaire and vote are urged in a discussion program, there is the program cooperation processing server 19 which carries out processing which cooperated with the program.

[0029] Member DB 71 which accumulates the information of the member who registered since the main server 7 was premised on the service to the user who did membership registration beforehand in this embodiment, Access log DB 75 for accumulating the access log of the portable telephone 3 which TV program-related-information storage 73 which accumulates the information relevant to the television broadcasting program with which a user should be provided, and the user who is the members operate is managed. Processing of the main server 7 is explained using a flow chart below.

[0030] Next, the functional block diagram of the portable telephone 3 built over this embodiment using drawing 2 is shown. The 1st Radio Communications Department

31 for transmitting at least the short-distance-radio signal which the television receiver 5 processes [reception and] to the portable telephone 3 [of infrared rays Bluetooth etc.] The 2nd Radio Communications Department 35 for communicating with the base transceiver station 9 the input part 37 containing two or more keys (button) provided in the portable telephone 3 and the software 33 which processes these control are established. Although OS (Operating System) which is not illustrated is also included in the software 33 The controller 331 by which that it is related to this embodiment manages the processing in this embodiment Access a web (Web) server and HTML (Hyper Text Markup Language) Compact HTML and WML (Wireless Markup Language) The browser 332 which displays by interpreting the data indicated with description languages such as HDML (Handheld Device Markup Language) XHTML (eXtensible HTML) and XHTML Basic is contained. According to the input of the user from the input part 37 the controller 331 issues directions so that the server of a predetermined domain name may be accessed to the browser 332 or For example processing in which a command is outputted so that the 1st Radio Communications Department 31 may transmit the radio signal about a channel change or selection to the television set 5 is carried out. For example the browser 332 makes information required for the 2nd Radio Communications Department 35 transmit to a predetermined server via the base transceiver station 9 the cellular phone network 11 and the Internet 1 via OS. The television receiver 5 carries out operation directed according to the radio signal from the 1st Radio Communications Department 31.

[0031] The controller 331 is recorded for example on ROM (Read Only Memory) of the portable telephone 3 etc. and if the remote control mode of the television receiver 5 is specified by the user it will be read and it will be performed. The main server 7 transmits as a Java (trademark of Sun Microsystems) applet to a registered user for example and the portable telephone 3 may receive the Java applet concerned and may hold it on the memory. Although the Java applet concerned is performed on JavaVM (Virtual Machine) mounted in the portable telephone 3 in JavaVM etc. access to the 1st Radio Communications Department 31 is permitted. The 1st Radio Communications Department 31 may be a gestalt connected to the portable telephone 3 by not only a gestalt that is included in the portable telephone 3 from the beginning but the connector.

[0032] Next processing of the portable telephone 3 and the main server 7 is explained using drawing 3 thru/or Drawing x. Drawing 3 shows the processing in the portable telephone 3. To the beginning OS starts the controller 331 according to the predetermined keystroke by a user for example (Step S1). That is it is set as the remote control mode of the television receiver 5. If the controller 331 will be in the state waiting for a keystroke and a keystroke is received it is judged whether directions of a channel selection or change were inputted (Step S3). For example when the button corresponding to a channel designator was pushed or when the input which changes a channel designator into a top or the bottom is performed it is judged as that into which directions of a channel selection or change were inputted. When it is judged that directions of a channel selection or

change were inputted processing about the 1st Radio Communications Department 31 and processing about the browser 332 and the 2nd Radio Communications Department 35 are carried out.

[0033]As processing about the 1st Radio Communications Department 31 according to a channel selection or a change input TV control commands for a channel change are generated and it outputs to the 1st Radio Communications Department 31 (Step S31). For example TV control commands which order performing a channel change to six channels are generated. And the 1st Radio Communications Department 31 transmits a radio signal to the television receiver 5 according to TV control commands for a channel change (Step S7). Thereby the television receiver 5 changes setting out of a tuner and comes to display the image of the channel of a user desire.

[0034]On the other hand the controller 331 carries out a channel selection or program-related-information acquisition processing according to a change input (step S9). This processing is later explained in detail using drawing 4. It is judged whether the end of processing was directed after Step S7 and step S9 (Step S23). Processing is ended when the end of processing is directed. On the other hand when the end of processing is not directed it returns to Step S3.

[0035]When it is judged that directions of a channel selection or change are not inputted in Step S3 it is judged whether it is that powering on of the television receiver 5 was directed (Step S11). When powering on is directed the controller 331 performs the input request display of a channel designator to the indicator of the portable telephone 3 (Step S13). This is because it may be unknown what No. the channel designator is although the image of the channel at the time of power off will be displayed on the power up of the television receiver 5. That is the channel designator which remains in the operation history of the portable telephone 3 etc. is because it is not necessarily in agreement. The controller 331 generates TV control commands for performing powering on of this television receiver 5 and outputs them to the 1st Radio Communications Department 31 (Step S19). The 1st Radio Communications Department 31 transmits a radio signal to the television receiver 5 according to TV control commands for powering on (Step S21). And it shifts to Step S23. Thereby powering on is performed and the television receiver 5 comes to display the image of the channel at the time of power off.

[0036]When it is judged that powering on of the television receiver 5 was not directed in Step S11 it is judged whether it is that directions of the power OFF of the television receiver 5 were made (Step S15). When power OFF is directed the controller 331 carries out pertinent information acquisition processing according to the input of the television receiver 5 of power OFF directions (Step S17). This processing is explained in detail later. And the controller 331 generates TV control commands for performing power OFF of this television receiver 5 and outputs them to the 1st Radio Communications Department 31 (Step S19). The 1st Radio Communications Department 31 transmits a radio signal to the television receiver 5 according to TV control commands for power OFF (Step S21). And it shifts to

Step S23. Thereby the power supply of the television receiver 5 is turned OFF.
[0037] On the other hand in Step S15 when it is judged that the power OFF of the television receiver 5 was not directed (i.e. when it is an input of volume control or directions called a change to input video) it shifts to Step S19. Namely the controller 331 generates TV control commands according to an indicating input and outputs them to the 1st Radio Communications Department 31 (Step S19). The 1st Radio Communications Department 31 transmits a radio signal to the television receiver 5 according to TV control commands for an indicating input (Step S21). And it shifts to Step S23. Thereby the television receiver 5 operates according to a user's directions.

[0038] Thus both processing which acquires information from main server 7 grade according to one indicating input of a user and processing which transmits a radio signal to the television receiver 5 are performed if needed.

[0039] Next the details of step S9 of drawing 3 are explained using drawing 4 thru/or drawing 6 also including relation with the main server 7. As the controller 331 of the portable telephone 3 outputs the request containing member ID and a channel designator to the server of a predetermined domain name according to a channel selection or a change input it outputs directions to the browser 332 (Step S31). When the browser 332 has not started directions are outputted after starting. The browser 332 will transmit the request containing member ID and a channel designator to the server of a predetermined domain name if directions are received from the controller 331 (Step S33). A predetermined server is the main server 7 in this embodiment. A request is a GET request of HTTP (Hyper Text Transfer Protocol) for example. For example it is a request [like / (the output of CGI (Common Gateway Interface) is included)] which acquires the file etc. of URL (Uniform Resource Locator) specified with member ID and a channel designator. It may be the composition which includes member ID and a channel designator in a GET request separately. When the browser 332 transmits information to the main server 7 the 2nd wireless radios 35 will be controlled via OS and it will transmit via the base transceiver station 9 the cellular phone network 11 and the Internet 1 but since it is the same as the former this portion is not described any more.

[0040] The main server 7 is once stored in memory storage if the request which contains member ID and a channel designator from the portable telephone 3 is received (Step S35). And member ID is extracted from a request member DB71 is searched with member ID and the area code of receiving area is acquired (Step S37). An example of the information stored in member DB71 is shown in drawing 5. In the example of drawing 5 the column 501 of member ID the column 502 of a name and the column 503 of age the occupation column 504 the column 505 of an address the column 506 of a mail address the column 507 of an area code the column 508 of the media 508 to which it can be viewed and listened the column 509 of the picture recording apparatus currently used and the column 510 of program advance notice mail setting are formed. It is also possible for this to be an example to make it accumulate more information and to consider it only as the part. In Step S37 an area code is read from the column 507 of an area code. It is

also possible to have composition which reads other individual attribute informationsuch as an address and an occupationin Step S37.

[0041]Nextprogram related information applicable from the program-related-information storage 73 is acquired using the information on an area codea channel designatorand a present date (Step S39). The broadcasting station to which it is viewing and listening with the area code and the channel designator is pinpointedand the program under present broadcast is specified by a present date. Howeverwhen other individual attribute information is read in Step S37it may be made to acquire the program related information which matched the individual attribute information concerned further. In this program related informationvarious thingssuch as information on charactersinformation on the area visited in the programinformation on a storeinformation on commercials can be considered.

[0042]And Web page data including the acquired program related information are generatedand it transmits to the portable telephone 3 which is the transmitting origin of a request (Step S41). Web page data are generated according to the browser 332 of the portable telephone 3. Howeverit may be not Web page data but data of other forms. For examplethey may be other formssuch as CSV (Comma Separated Value) form. The browser 332 of the portable telephone 3 receives the Web page data which include program related information from the main server 7and displays them on an indicator (Step S43). Nowthe user of the portable telephone 3 can only perform a channel selection or a change input oncecan operate the television receiver 5 by remote controland can acquire the program related information of the television broadcasting program to which it is viewing and listening from the main server 7 further.

[0043]From this program related informationin performing shoppingssuch as goods relevant to a programit accesses the shopping server 15In participating in votea questionnaireetc. in a programit accesses the program cooperation processing server 19The down load server 15 is accessed to download the file relevant to a programand the advertisement server 13 can be accessed now to obtain the advertisement of goods relevant to a program.

[0044]The main server 7 registers member IDtimea channel designatoran area codeetc. into access log DB75 as an access log (Step S45). An example of the data registered into access log DB75 is shown in drawing 6. In the example of drawing 6the column 601 of member IDthe column 602 of timethe column 603 of a channel designatorthe column 604 of an area codeand the column 605 of the user attribute are formed. Although the example which registers a user attribute is shownit cannot register with access log DB75but ** can also be extracted from member ID to member DB71. Time registers the receiving date of a request here. Howeverit may be the time when time is included in a request.

[0045]The access log registered into access log DB75 is used in order to be used in order to send program advance notice mail so that it may explain lateror to set up analyze a viewing inclinationfor example in the advertisement server 13and send a more suitable advertisement. It is used also for calculating viewership as shown in Step S47. That isthe channel or program to which it is viewing and

listening at predetermined time is specified in an access log and viewership is calculable if the rate is calculated.

[0046] On the other hand it transmits the request containing member ID and a channel designator periodically or irregularly (Step S49) and shifts to Step S35 until the browser 332 of the portable telephone 3 has a certain input. Transmission of this periodical or irregular request may be controlled by the controller 331 and the browser 332 may follow setting out included in Web page data. This acquires the program related information in alignment with the flow of the program and it can display now on the indicator of the portable telephone 3.

[0047] Next processing for the main server 7 to transmit program advance notice mail using access log DB75 is shown in drawing 7. The main server 7 searches the access log of access log DB75 with member ID and acquires the frequency data for every program to which the specific member is viewing and listening (Step S71). Since this can specify the program to which it viewed and listened when using the time transition and the race card of the channel designator which were registered it calculates viewing-and-listening frequency about each program. And the view program ranked as the higher rank is registered into the column 510 of the program advance notice mail setting of member DB71 noting that it is a favorite program of the member concerned (Step S73).

[0048] Thus if a program is registered into the column 510 of program advance notice mail setting information mail of the registered program concerned will be generated before the broadcast start time of the program concerned and it will transmit to it at a member (Step S75). As long as the contents of information mail may be the advance notices of this program content they are the information when there is a special program for example or they have change of broadcasting hours for example they may be mail which announces you change. Member DB71 is searched for example before the broadcast-start-time predetermined time of a specific program and the program concerned extracts the member registered into the column 510 of program advance notice mail setting and should just transmit information mail to the mail address registered into the column 506 of the mail address of member DB71. The portable telephone 3 receives information mail of a registered program for example from its mail box and displays it on an indicator (Step S77).

[0049] A user's program viewing and listening is promoted by receiving such mail and advertising effectiveness is also promoted by including a program-related advertisement.

[0050] Next processing of Step S17 of drawing 3 is explained using drawing 8. According to the input which directs the power OFF of a television receiver the controller 331 of the portable telephone 3 it is directed to the browser 332 that a request including the information concerning member ID and power OFF transmits to the server (main server 7 in this embodiment) of a predetermined domain name (Step S51). The browser 332 will transmit a request including the information concerning member ID and power OFF to the server of a predetermined domain name if directions are received from the controller 331 (Step S53).

[0051] On the other hand, the main server 7 receives a request including the information concerning member ID and power OFF and once stores it in memory storage (Step S55). And the access log of access log DB75 is searched with member ID contained in a request and today's viewing history information is acquired (Step S57). That is, viewing history information is information on the time transition of a channel designator. A program name etc. can be included in this. And the accompanying information of the advertisement relevant to the viewing history information registered into TV program-related-information storage 73, for example, etc. is doubled and acquired (Step S59). And Web page data including a viewing history and pertinent information are generated and it transmits to the portable telephone 3 (Step S61). The description language with which Web page data can process the browser 332 of the portable telephone 3 is used.

[0052] The portable telephone 3 receives the Web page data which include a viewing history and pertinent information from the main server 7 and displays them on an indicator (Step S65). Thereby, a user looks at today's viewing history and he can also acquire pertinent information, can remember the program to which it viewed and listened, or can also see a next advance notice. If a program-related advertisement is furthermore seen, attractiveness to consumers can also be made to evoke.

[0053] If a user directs further, it is also possible to register a viewing history and pertinent information into the portable telephone 3. If a user directs further, the appointed URL can be accessed and the information of further others can be acquired (Step S67).

[0054] On the other hand, the main server 7 registers member ID, time, the information on power OFF, etc. into access log DB75 as an access log (Step S63). It can also be later judged now for which program now finally the power supply was turned off.

[0055] Although the upper explanation explained the processing on condition of membership registration, it was because this provides program related information based on a member's attribution information or pinpoints broadcasting areas. However, if position information is included in the information transmitted from the browser 332, program related information can be acquired without using the area code registered into member DB71. When using the area code registered into member DB71, watching a television broadcasting program at a house is assumed, but, if position information doubles and is transmitted also when television receivers 5 other than a house are being watched, for example, the same service can be received from main server 7 grade.

[0056] Composition which includes position information instead of member ID is also possible. This is not premised on membership registration. When not holding membership registration, extraction of the program related information which used registration-attributes information becomes impossible, but if it is the information relevant to a program simply, it can extract from TV program-related-information storage 73.

[0057] Therefore, step S9 of drawing 3 may not be considered as processing like drawing 4, for example, but it may perform as processing like drawing 9. The

controller 331 of the portable telephone 3 is directed to the browser 332 so that the request containing area information (or position information) and a channel designator may be transmitted to the server (main server 7) of a predetermined domain name according to the indicating input of channel designator selection or change (Step S81). It may be the composition which is beforehand registered into the controller 331 for example and after the controller 331 starts for example at Step S1 of drawing 3 it may be made to ask for an input immediately about area information.

[0058] The browser 332 transmits the request containing area information and a channel designator to the server of a predetermined domain name (Step S83). The main server 7 receives the request which contains area information and a channel designator from the portable telephone 3 and once stores it in memory storage (Step S85). And an applicable program is specified using the information on area information a channel designator and the present time and the information relevant to the program concerned is acquired from TV program-related-information storage 73 (Step S87). And Web page data including the acquired program related information are generated and it transmits to the portable telephone 3 (Step S89). The portable telephone 3 receives the Web page data which include program related information from the main server 7 and displays them on an indicator (Step S91). The main server 7 registers area information a channel designator time etc. as an access log (Step S93).

[0059] Even if it is such composition a user is the portable telephone 3 operates the television receiver 5 by remote control and he can acquire the information relevant to a program. However program related information was not customized by the user and will be general contents. By the data registered into access log DB75 it becomes difficult to do viewership calculation. However if not member ID but other user identification information is acquirable it can calculate easily by a method which described viewership calculation etc. previously.

[0060] Although the 1 embodiment of this invention was described above this invention is not limited to this. For example although the portable telephone was explained as a premise in the top they may be PDA and other personal digital assistants. There is also a case of a notebook PC etc. depending on the case. In explanation of drawing 3 when the indicating input of powering on occurs surge a channel designator input but. For example the history of the channel designator may be accumulated in the controller 331 and it may be the composition that the browser 332 is made to access the main server 7 with the channel designator of the just before concerned using the last channel designator.

[0061] In the channel selection or the change input in the process flow of drawing 3 have composition which certainly performs Step S5 thru/or step S9 but. For example when it judges whether Step S13 was passed and Step S13 is passed it may be the composition that it is not made not to perform Step S5 and Step S7.

[0062] It may be made for the server shown in drawing 1 to function by one computer and may be made to function by two or more computers.

[0063] In drawing 3 although the channel selection or the change input is judged

first it is also possible to have composition which judges first whether it is an indicating input of a power turn. As long as the first input is not a channel selection it may be the composition which is urged to certainly perform a channel selection input.

[0064]

[Effect of the Invention] As mentioned above the personal digital assistant which can cooperate during broadcast with the computer which provides the television receiver and television broadcasting program related information which do not have a special function and the art for it were able to be provided.

[0065] The computer for providing with television broadcasting program related information the personal digital assistant which cooperates and operates during broadcast with a television receiver and the art for it were also able to be provided.

[0066]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is a system schematic diagram concerning the 1 embodiment of this invention.

[Drawing 2] It is a functional block diagram of the portable telephone concerning the 1 embodiment of this invention.

[Drawing 3] It is a figure showing the process flow in the portable telephone concerning the 1 embodiment of this invention.

[Drawing 4] It is a figure showing the process flow of the portable telephone concerning the 1 embodiment of this invention and a main server.

[Drawing 5] It is a figure showing an example of the data stored in the member DB.

[Drawing 6] It is a figure showing an example of the data stored in the access log DB.

[Drawing 7] It is a figure showing the process flow for transmitting program advance notice mail.

[Drawing 8] It is a figure showing a process flow when TV OFF is inputted.

[Drawing 9] It is a figure showing the process flow in the case of transmitting area information and a channel designator from a portable telephone.

[Description of Notations]

1 Internet 3 Portable telephone

5 Television receiver 7 main server

9 Base transceiver station 11 cellular phone network

13 Advertisement server 15 down load server

17 Shopping server 19 Program cooperation processing server

71 Member DB 73 TV program-related-information storage

75 Access log DB

31 The 1st wireless radios 33 software

35 The 2nd wireless radios 37 input part

331 Controller 332 Browser
